

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented): An apparatus comprising:

 a source generator configured to convert image information into digital image information; and

 an encoder coupled to the source generator, the encoder configured to receive the digital image information from the source generator and comprising:

 a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback, wherein the final set of parameters define quantization steps (Q-steps) for quantizing coefficients, a block size threshold that limits a number of blocks associated with one or more block sizes, one or more weighting functions that define weightings to be applied during quantization, and one or more variable length coding tables to be applied during variable length coding; and

 an image compressor coupled to the parameter generator, the image compressor to compress the digital image information using the final set of parameters, wherein the encoder outputs the compressed digital information.

Claim 2 (Currently amended): The apparatus of claim 1, wherein the parameter generator comprises:

 a second image compressor to compress the digital image information using a first set of parameters; and

 a processor coupled to the second image compressor, the processor to adjust the first set of parameters and generate a second set of parameters when the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold, and set the first set of parameters as said final set of parameters when the first set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 3 (Previously Presented): The apparatus of claim 2, wherein the parameter generator further comprises:

a statistic generator coupled to the processor, the statistic generator configured to generate a statistical analysis; and wherein

the processor adjusts the first set of parameters based on the statistical analysis.

Claim 4 (Previously Presented) The apparatus of claim 1, wherein the parameter generator comprises:

a processor to output a first set of parameters, the processor to adjust the first set of parameters to generate a second set of parameters if the use of the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold, and to output the first set of parameters as said final set of parameters when the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 5 (Previously Presented): The apparatus of claim 4, wherein the parameter generator further comprises:

a statistic generator coupled to the processor, the statistic generator configured to generate a statistical analysis; and wherein

the processor adjusts the first set of parameters based on the statistical analysis.

Claim 6 (Original): The apparatus of claim 5, wherein the statistical analysis involves analyzing bits per pixel for images.

Claim 7 (Previously Presented): The apparatus of claim 5, wherein the statistical analysis determines the effectiveness of the first set of parameters.

Claim 8 (Previously Presented): The apparatus of claim 1, wherein the image compressor comprises:

a transform module to convert the digital image information from spatial to frequency domain, the transform module to generate transform coefficients based on the block size threshold;

a quantization module to quantize the transform coefficients using the Q-steps and the one or more weighting functions; and

a variable length coding module to compress the quantized transform coefficients based on the one or more variable length coding tables.

Claim 9 (Previously Presented): The apparatus of claim 8, wherein the one or more weighting functions comprise frequency weight mask (FWM) tables.

Claim 10 (Previously Presented): The apparatus of claim 8, wherein the one or more variable length coding tables comprise Huffman code tables and the variable length coding module includes a Huffman engine to compress the quantized transform coefficients using the Huffman code tables.

Claim 11 (Previously Presented): The apparatus of claim 8, wherein the block size threshold comprises an adaptive block size discrete transform (ABSDCT) threshold and the transform module comprises an ABSDCT module to convert the digital image information from spatial to frequency domain using ABSDCT according to the ABSDCT threshold.

Claim 12 (Original): The apparatus of claim 1, wherein the digital image information is at least a portion of a film.

Claims 13–24 (Canceled).

Claim 25 (Previously presented): An apparatus for encoding digital image information comprising:

means for outputting a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback, wherein the final set of parameters define quantization steps (Q-steps) for quantizing coefficients, a block size threshold that limits a number of blocks associated with one or more block sizes, one or more weighting functions that define weightings to be applied during quantization, and one or more variable length coding tables to be applied during variable length coding; and

means for compressing the digital image information using the final set of parameters, wherein the apparatus outputs the compressed digital image information.

Claim 26 (Currently amended): The apparatus of claim 25, wherein the means for outputting the final set of parameters comprises:

means for compressing the digital information using a first set of parameters;

means for outputting the first set of parameters; and

means for adjusting the first set of parameters when the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold and set the first set of parameters as said final set of parameters when the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 27 (Canceled).

Claim 28 (Currently amended): An apparatus for encoding digital image information comprising:

a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback, wherein the final set of parameters define quantization steps (Q-steps) for quantizing coefficients, a block size threshold that limits a number of blocks associated with one or more block sizes, one or more weighting functions that define weightings to be applied during quantization, and one or more variable length coding tables to be applied during variable length coding; and

an image compressor coupled to the parameter generator, wherein the image compressor ~~to compress~~ compresses the digital image information using the final set of parameters, wherein the apparatus outputs the compressed digital image information.

Claim 29 (Currently amended): The apparatus of claim 28, wherein the parameter generator comprises:

a second image compressor that compresses ~~to compress~~ the digital image information using a first set of parameters; and

a processor coupled to the second image compressor, wherein the processor ~~to adjust~~ adjusts the first set of parameters when the set of parameters is determined to result in the compressed data bit rate not below the selected threshold and sets ~~[[set]]~~ the first set of parameters as said final set of parameters when the first set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 30 (Canceled).

Claim 31 (Previously Presented): The apparatus of claim 1, wherein the parameter generator comprises:

a processor to adjust a first set of parameters to generate a second set of parameters if the use of the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold and to repeatedly adjust the second set of parameters until the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 32 (Previously Presented): The apparatus of claim 25, wherein the means for compressing the digital image information using the final set of parameters comprises:

means for converting the digital image information from a spatial domain to a frequency domain, wherein the means for converting generates transform coefficients based on the block size threshold;

means for quantizing the transform coefficients using the Q-steps and the one or more weighting functions; and

means for variable length coding the quantized transform coefficients based on the one or more variable length coding tables.

Claim 33 (Previously Presented): The apparatus of claim 28, wherein the image compressor comprises:

a transform module that converts the digital image information from a spatial domain to a frequency domain, the transform module generating transform coefficients based on the block size threshold;

a quantization module to quantize the transform coefficients using the Q-steps and the one or more weighting functions; and

a variable length coding module to compress the quantized transform coefficients based on the one or more variable length coding tables.

Claim 34 (Previously Presented): An apparatus comprising:

a source generator configured to convert image information into digital image information; and

an encoder coupled to the source generator, the encoder configured to receive the digital image information from the source generator and comprising:

a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback, wherein the final set of parameters define a block size threshold that limits a number of blocks associated with one or more block sizes; and

an image compressor coupled to the parameter generator, the image compressor compressing the digital image information using the final set of parameters, wherein the encoder outputs the compressed digital information.

Claim 35 (New) The apparatus of claim 25, wherein the means for outputting and the means for compressing are each implemented at least partially via one or more structural components selected from a group consisting of:

hardware,

firmware,

one or more processors,

one or more application specific integrated circuits (ASICs), and

one or more circuit card assemblies.

Claim 36 (New) The apparatus of claim 28, wherein the parameter generator and the image compressor are each implemented at least partially via one or more structural components selected from a group consisting of:

- hardware,
- firmware,
- one or more processors,
- one or more application specific integrated circuits (ASICs), and
- one or more circuit card assemblies.